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10/516,711	12/02/2004	Lieven Gesquiere	PF020058	6753

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EXAMINER	
TESHALE, AKELAW	

ART UNIT	PAPER NUMBER
2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,711	GESQUIERE ET AL.	
	Examiner	Art Unit	
	AKELAW A. TESHALE	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,20,22,23 and 30-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,20,22,23 and 30-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/02/2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Fig.1 is objected to because the drawing labels are missing. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any

person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 1-9, 20, 22-23 and 30-34** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent **claims 1, 7 and 30** have been recite "a first set and a second set of bandwidths...."

These limitations are not supported by the specification, e.g. Under the section "First Embodiment: "Aggressive" Dynamic Transfer Mode and Bandwidth Selection" and "Second Embodiment: "Friendly" Dynamic Transfer Mode and Bandwidth Selection" (see Paragraph [0051] and [0067] respectively). However, "friendly" bandwidth selection algorithm uses the same parameter that was already defined relating to "aggressive" algorithm (see Paragraph [0055] and [0069]). It is not clear where the two set of bandwidths described in the specification.

Claims 2-6, were rejected because they depend on a rejected claim 1.

Claims 8-9, 20, 22-23 and 34, were rejected because they depend on a rejected claim 7.

Claims 31-33, were rejected because they depend on a rejected claim 30.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claim 1** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, lines 11-12 recited "if said second data transfer mode can not be used with said local bus bandwidth". The next condition is uncertain once the "if" condition applied.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 1-9, 20, 22, 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 6,658,499 B1 to Day et al in view of U.S Patent No. 7,230,975 B2 to Subrahmanya et al.

As to **claim 1,** Day discloses a modem for interconnecting a DSL line and a local bus, said local bus comprising a first and a second data transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57; isochronous mode and bulk transfer mode), which modem comprises a DSL interface adapted to send and receive data on the DSL line at a DSL bandwidth, and a local bus interface, wherein the local bus interface is adapted to operate at a local bus bandwidth so

as to match the DSL bandwidth, and is adapted to select the first data transfer mode of said local bus bandwidth is below a specified nonzero threshold ,and selecting the second data transfer mode if said local bus bandwidth is above said threshold (Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58) even if said second data transfer mode could be used with said local bus bandwidth, to select the second data transfer mode if said local bus bandwidth is above said threshold and if said second data transfer mode can be used with said local bus bandwidth, and to select the first data transfer mode and if said second data transfer mode cannot be used with said local bus bandwidth(Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58 ; see ,selections between isochronous mode and bulk transfer mode the bandwidth availability).

Day teaches local bus interface is adapted to operate at a local bus bandwidth, adjust bandwidth so as to match the DSL Bandwidth (Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58). However, Day fail to teach the selection of bandwidths.

Subrahmanya teaches selection of set of bandwidths (column 6, lines 44-54 and column 9, lines 10-34).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to modify Day's teaching with set of bandwidths selection as taught by Subrahmanya.

The suggestion/motivation would have been in order to provide acceptable performance based on certain assumption for channel condition.

As to **claim 2,** Day discloses the modem according to claim 1, wherein each set is formed of a plurality of discrete predefined bandwidth amounts (column 2, lines 12-34).

As to **claim 3,** Day discloses the modem according to claim 1, each set is formed of a plurality of discrete predefined bandwidth amounts (column 2, lines 12-34).

As to **claim 4,** Day discloses the modem according to claim 1, wherein the local bus interface is a USB interface (see Fig.1 element 110).

As to **claim 5,** Day discloses the modem according to claim 4, wherein the USB interface is adapted to operate in bulk transfer mode if the DSL bandwidth is below a predefined non-zero threshold and in isochronous transfer mode if the DSL bandwidth is above said threshold (Fig.6 column 2, lines 12-34, column 8, lines 5-10 and column 13, lines 1-58).

As to **claim 6,** Day discloses the modem according to one of claim 1, wherein it comprises storage means for storing data representative of at least one of a local bus bandwidth amount and a DSL bandwidth amount assigned to a service accessible by said DSL line (column 6, lines 58-67).

As to **claim 7,** Day discloses a method for establishing a data transfer mode for a modem interconnecting a DSL line and a local bus , said local bus comprising a first and a second data transfer mode preferably a modem(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57),comprising the steps of :

a) at least one of a desired DSL bandwidth and a desired local bus bandwidth according to a desired type of service to be accessed via said DSL line(see Fig.6 and column 13 , lines 1-57) ,

b) attempting to reserve the desired local bus bandwidth on the local Bus (see Fig.6),

c) if said local bus bandwidth is below a specified nonzero threshold, selecting the first data transfer mode even if said second data transfer mode could be used with said local bus bandwidth; if said local bus bandwidth is above said threshold and said second data transfer mode can be used with said local bus bandwidth, selecting the second data transfer mode;[,] and, if said local bus bandwidth is above said threshold and said second data transfer mode cannot be used with said local bus bandwidth, selecting the first data transfer mode (Abstract, Fig.6, column 8, lines 5-10 and column 13, lines 1-58),

d) attempting to synchronize the DSL line to the desired DSL bandwidth(Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58), and

e) when the attempts have succeeded, transferring data between the DSL line and the local bus (Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58).

Day teaches local bus interface is adapted to operate at a local bus bandwidth, adjust bandwidth so as to match the DSL Bandwidth (Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58). However, Day fail to teach the selection of bandwidths.

Subrahmanya teaches selection of set of bandwidths (column 6, lines 44-54 and column 9, lines 10-34).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to modify Day's teaching with set of bandwidths selection as taught by Subrahmanya.

The suggestion/motivation would have been in order to provide acceptable performance based on certain assumption for channel condition.

As to **claim 8,** Day discloses the method of claim 7, wherein each set is formed of a plurality of discrete predefined bandwidth amounts (column 2, lines 12-34).

As to **claim 9,** Day discloses the method of claim 8, comprising the step of selecting one of the desired bandwidths based on the other bandwidth such that the desired local bus bandwidth is the lowest bandwidth from said second set that has a payload data rate at least equal to that of the desired DSL bandwidth (See Fig .6).

As to **claim 20,** Day discloses the method of claim 7, wherein at least one of the desired bus bandwidths is selected based on a specified bandwidth amount for the desired service stored at the modem (column 6, lines 58-67).

As to **claim 22,** Day discloses the method of claim 7, wherein if the second transfer mode is selected and of step d) fails, a lower desired local bus bandwidth is selected from the second set, and step d) is repeated (See Fig.6).

As to **claim 23,** Day discloses the method of claim 22, wherein and if step d) fails and no lower desired local bus bandwidth can be selected from the second set, the first data transfer mode is selected for the local bus (See Fig.6).

8. **Claims 30-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 6,658,499 B1 to Day et al in view of U.S Patent No. 7,230,975 B2 to Subrahmanya et al. in further view of U.S Patent No. 6,157,975 to Brief et al.

As to **claim 30,** Day discloses a method for establishing a data transfer mode for a modem interconnecting a DSL line and a local bus, said local bus comprising a first and a second data transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57), comprising the steps of

a) selecting the first data transfer mode (Fig.6, column 8, lines 5-10 and column 13 , lines 1-57),

b) at least one of a desired DSL bandwidth and a desired local bus bandwidth according to a desired type of service to be accessed via said DSL line(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57),

c) attempting to reserve the desired local bus bandwidth on the local bus,

d) attempting to synchronize the DSL line to the desired DSL bandwidth, and e) when the attempts have succeeded, transferring data between the DSL line and the local bus (Fig.6, column 8, lines 5-10 and column 13, lines 1-57).

Day teaches local bus interface is adapted to operate at a local bus bandwidth, adjust bandwidth so as to match the DSL Bandwidth (Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58). However, Day fail to teach the selection of bandwidths.

Subrahmanya teaches selection of set of bandwidths (column 6, lines 44-54 and column 9, lines 10-34).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to modify Day's teaching with set of bandwidths selection as taught by Subrahmanya.

The suggestion/motivation would have been in order to provide acceptable performance based on certain assumption for channel condition.

Day fail to teach selection first data transfer mode being independent of the local bus bandwidth.

Brief teaches selection first data transfer mode being independent of the local bus bandwidth (see column 3, lines 22-31 and column 8, lines 50-62).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to modify Day's teaching with selection first data transfer mode being independent of the local bus bandwidth as taught by Brief.

The suggestion/motivation would have been in order to select a mode of operation for each of the plurality of end point.

As to **claim 31,** Day discloses the method of claim 30, wherein, if said transfer has succeeded and if said local bus bandwidth is above a specified nonzero threshold, selecting the second data transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57).

As to **claim 32,** Day discloses the method of claim 30, wherein, if said local bus bandwidth is not granted, selecting the first data transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57).

As to **claim 33,** Day discloses the method according to claim 30, wherein said local bus is an USB bus, said first data transfer mode is a Bulk transfer mode and said second data transfer mode is an isochronous transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57).

As to **claim 34,** Day discloses the method according to claim 7, wherein said local bus is an USB bus, said first data transfer mode is a Bulk transfer mode and said second data transfer mode is an isochronous transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- U.S Patent No. 6,590,897 to Lauffenburger et al teaches communication systems, and more particularly to a system and method for communicating information between a host and a communications network using a universal serial bus and a modem.
- U.S Patent No. 7,215,670 B1 to Karlsson et al teaches Hardware acceleration for reassembly of message packets in a universal serial bus peripheral device.
- U.S Patent No. 6,523,081 B1 Karlsson et al teaches interface and improving bandwidth over universal serial bus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKELAW A. TESHALE whose telephone number is (571)270-5302. The examiner can normally be reached on M-F 8:00am-5:00 Pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, FAN TSANG can be reached on (571)272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Akelaw A Teshale/
Examiner, Art Unit 2614
/Fan Tsang/
Supervisory Patent Examiner, Art Unit 2614